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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/963,589	09/27/2001	Mitsuya Ohie	F01ED0011	9626

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EXAMINER

HUYNH, KIM NGOC

ART UNIT PAPER NUMBER

2182

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/963,589

Applicant(s)

OHIE ET AL.

Examiner

Kim Huynh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 15-17 is/are rejected.
- 7) ☒ Claim(s) 4-14 and 18-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 15-16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jackson et al. (US 6,085,325) in view of applicant's admitted prior art (background) or Hawkins et al. (US 5,586,308).

Claim 1, Jackson discloses (Figs. 2-4) a micro-controller controlling a data transfer to or from a host device 201 through a pair of data lines (USB bus) for transferring a first data at the first data line and a second data at the second data line, which is different from the first data respectively (USB bus structure, see Fig. 2 and col. 1, ll. 13-33) having an internal circuit (col. 3, ll. 60-65), a transfer control unit 242, a main control unit 301 and an oscillator 302 (see Fig. 3).

The transfer control unit 242 has a watching condition (bus monitor circuit 405), and outputs a first output signal (ACTIVITY signal) to the main control unit 301 for controlling an operation of the internal circuit and for changing its mode to/from an operative and inoperable mode. The main control unit 301 outputs a second signal (SUSPEND signal) when the main control unit is in the inoperative mode (col. 4, ll. 5-9, ll.21-25 and col. 5, ll. 5-35) to inactivate the oscillating circuit (col. 5, ll. 35-48). The

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oscillating circuit being activated in response to the watching result when the main control unit returns to the operable mode (via the RESUME signal, see Fig. 4 and col. 4, ll. 59-66).

Jackson does not explicitly disclose the a transfer control unit 242 and the main control unit 301 operates in response to the same oscillation signal. However, Jackson discloses that the oscillator is controlled by both the control circuit 242 and the microcontroller 301 of the USB device 241. The oscillator 302 provides a raw frequency to the USB device and also generates other clock pulses along with other sub frequencies during suspend mode (col. 4, ll. 12-20). It would have been obvious to one having ordinary skill in the art to realize that the oscillator 302 is commonly used for various circuits in the microcontroller.

In the alternative, it is admitted by applicant (par. 12) and is well known as discussed Hawkins that it is desirable to use a single oscillator reduce cost and power consumption (col. 1, ll. 39-59). It would have been obvious to one having ordinary skill in the art to utilize a common oscillator in the circuit of Jackson to realize the cost saving and ease of synchronization.

Claim 2, Jackson discloses the oscillator having a first frequency (raw frequency) and a clock signal generator (cell) for generating multiple frequencies/clock pulses (col. 4, ll. 12-20). Jackson does not disclose the clock supplied to transfer control unit is higher than the oscillator first frequency. Since is well known to use frequencies multiplier/divider to obtain the desired frequencies/clock signal (Hawkins, col. 2, ll. 28-50), it would have been obvious to one having ordinary skill in the art to provide the

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appropriate clock signal supplying to the transfer control to allow proper operation of the USB device unit as required in accordance with the USB standard.

Claim 3, since the operation of the oscillator is under control of the watch result, it is inherent that the operation of the lock generator is also controlled in response to this result.

Claims 15-17, Jackson does not disclose the transfer control unit and the main control unit are formed on a single semiconductor chip. However, demand for miniaturization electronic device and reduction of power consumption of electronic devices in current technology is increasing, and it is also very feasible and is common practice integrate an integrated multiple circuits on a single chip in order to meet such demand (Hawkins, col. 1-2). Therefore, it would have been obvious to one having ordinary skill in the art to implement the single chip integration of the peripheral device of Jackson in order to meet current demand of electronic technology.

Allowable Subject Matter

3. Claims 4-14 and 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter

Claims 4, 9 and 12 recites, inter alia, the microcontroller having a pair of data transferring lines with the oscillator being controlled by the main control unit and the

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transfer control unit as recited above wherein the transfer control unit sending a signal to the main control unit for allowing the main control unit to be in operable or inoperable mode based on the conditions of the data lines for a particular period.

Jackson discloses the controller receives the activity signal and determines the window of time in which it waits for the activity signal and sending the suspend signals to the control circuit (col. 4, ll. 21-30).

The references of record do not teach or suggest the aforementioned limitation, nor would it be obvious to modify those references to include such limitation.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Urade (US 6,272,644) and Wright et al. (US 6,467,042) disclose various devices for lowering power consumption in a USB device.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim Huynh whose telephone number is (571) 272-4147.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Kim Huynh', with a long horizontal flourish extending to the right.

Kim Huynh
Primary Examiner
Art Unit 2182

KH
11/17/04